

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An image input unit capable of performing pixel shift photography, said image input unit comprising:

a photographic optical system which forms an image of a subject in a predetermined position;

an image sensing unit which generates image data corresponding to the image of the subject;

a pixel shift mechanism which displaces said image sensing unit by a predetermined amount;

a pixel shift mechanism control unit which controls said pixel shift mechanism so as to displace said image sensing unit by the predetermined amount;

an image combining unit which generates image data for one image by combining the image data for a plurality of images output before and after the displacement of said image sensing unit; and

a judgment unit which judges whether the pixel shift photography on the completed combined image has been performed correctly or not, based on comparing the image data ~~for~~ from a plurality of images output before ~~and after~~ the displacement of said image sensing unit with the image data from the plurality of images output after the displacement of said image sensing unit.

Claim 2 (Original): The image input unit according to claim 1, wherein said judgment unit comprises:

a pixel shift evaluation value calculation unit which calculates a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not,

based on the image data for a plurality of images output before and after the displacement of said image sensing unit; and

a pixel shift photography judgment unit which judges whether the pixel shift photography has been normally performed or not, based on the pixel shift evaluation value calculated by said pixel shift evaluation value calculation unit.

Claim 3 (Original): The image input unit according to claim 2, wherein said pixel shift evaluation value calculation unit calculates an amount of shift between the image data for the plurality of images output before and after the displacement of said image sensing unit, as the pixel shift evaluation value; and

said pixel shift photography judgment unit judges whether the pixel shift photography has been performed normally, based on the amount of shift calculated by said pixel shift evaluation value calculation unit.

Claim 4 (Original): The image input unit according to claim 3, wherein when calculating the amount of shift between the image data for the plurality of images, said pixel shift evaluation value calculation unit calculates each amount of shift for a plurality of areas of the image data.

Claim 5 (Original): The image input unit according to claim 4, wherein said pixel shift photography judgment unit judges that the pixel shift photography has been performed normally when a part of or the whole of the amount of shift in the plurality of areas calculated by said pixel shift evaluation value calculation unit is within a predetermined range.

Claim 6 (Original): The image input unit according to claim 4, wherein said pixel shift photography judgment unit judges that the pixel shift photography has not been performed normally when a part of or the whole of the amount of shift in the plurality of areas calculated by said pixel shift evaluation value calculation unit is out of the predetermined range, and there is a predetermined relation in the amount of shift in the plurality of areas.

Claim 7 (Original): The image input unit according to claim 4, wherein said pixel shift photography judgment unit judges that the pixel shift photography has been performed normally, but a part of the subject has moved, in the case where a part of or the whole of the amount of shift in the plurality of areas calculated by said pixel shift evaluation value calculation unit is out of the predetermined range, but there is no predetermined relation in the amount of shift in the plurality of areas.

Claim 8 (Original): The image input unit according to claim 4, wherein said judgment unit comprises a reliability evaluation unit which calculates reliability data indicating the reliability of each amount of shift in the plurality of areas calculated by said pixel shift evaluation value calculation unit; and

said pixel shift photography judgment unit judges whether the pixel shift photography has been performed normally, based on the amount of shift in the plurality of areas and the reliability data.

Claim 9 (Original): The image input unit according to claim 2, wherein said pixel shift evaluation value calculation unit calculates the coincidence degree for a target image

data, based on an image data output by said image sensing unit before and after being displaced, as the pixel shift evaluation value; and

said pixel shift photography judgment unit judges whether the pixel shift photography has been performed normally, based on the coincidence degree calculated by said pixel shift evaluation value calculation unit.

Claim 10 (Original): The image input unit according to claim 9, wherein said pixel shift evaluation value calculation unit calculates the coincidence degree, respectively, for the plurality of areas of the image data, at the time of calculating the coincidence degree.

Claim 11 (Original): The image input unit according to claim 10, wherein said pixel shift photography judgment unit judges that the pixel shift photography has been performed normally when a part of or the whole of the coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit is within a predetermined range.

Claim 12 (Original): The image input unit according to claim 10, wherein said pixel shift photography judgment unit judges that the pixel shift photography has not been performed normally when a part of or the whole of the coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit is out of the predetermined range, and there is a predetermined relation in the coincidence degree in the plurality of areas.

Claim 13 (Original): The image input unit according to claim 10, wherein said pixel shift photography judgment unit judges that the pixel shift photography has been performed

normally, but a part of the subject has moved, in the case where a part of or the whole of the coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit is out of the predetermined range, but there is no predetermined relation in the coincidence degree in the plurality of areas.

Claim 14 (Original): The image input unit according to claim 10, wherein said judgment unit comprises a reliability evaluation unit which calculates reliability data indicating the reliability of each coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit; and

said pixel shift photography judgment unit judges whether the pixel shift photography has been performed normally, based on the coincidence degree in the plurality of areas and the reliability data.

Claim 15 (Original): The image input unit according to claim 1, further comprising an informing unit which informs of the judgment result of said pixel shift photography judgment unit.

Claim 16 (Original): The image input unit according to claim 8, wherein said reliability evaluation unit calculates the reliability data based on the contrast of the image within the range of each of the calculation area.

Claim 17 (Original): The image input unit according to claim 14, wherein said reliability evaluation unit calculates the reliability data based on the contrast of the image within the range of each of the calculation area.

Claim 18 (Withdrawn): An image input unit capable of performing pixel shift photography, said image input unit comprising:

- a photographic optical system which forms an image of a subject in a predetermined position;

- an image sensing unit which generates image data corresponding to the image of the subject;

- a pixel shift mechanism which displaces said image sensing unit by a predetermined amount;

- a pixel shift mechanism control unit which controls said pixel shift mechanism so as to displace said image sensing unit by the predetermined amount;

- an image combining unit which generates image data for one image by combining the image data for a plurality of images output before and after the displacement of said image sensing unit;

- a pixel shift evaluation value calculation unit which calculates a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not, based on the image data for a plurality of images output before and after the displacement of said image sensing unit;

- a storage unit which stores the pixel shift evaluation value calculated by the pixel shift evaluation value calculation unit;

- a storage control which controls storage of the pixel shift evaluation value in said storage unit; and

- a failure judgment unit which judges a failure of said pixel shift mechanism, based on the pixel shift evaluation values of pixel shift photography of the last several times stored in said storage unit.

Claim 19 (Withdrawn): The image input unit according to claim 18, wherein said pixel shift evaluation value calculation unit calculates an amount of shift between the image data for the plurality of images output before and after the displacement of said image sensing unit, as the pixel shift evaluation value.

Claim 20 (Withdrawn): The image input unit according to claim 19, wherein when calculating the amount of shift between the image data for the plurality of images, said pixel shift evaluation value calculation unit calculates each amount of shift for a plurality of areas of the image data.

Claim 21 (Withdrawn): The image input unit according to claim 20, further comprising a reliability evaluation unit which calculates reliability data indicating the reliability of the amount of shift in the plurality of areas calculated by said pixel shift evaluation value calculation unit;

said storage control unit storing the reliability data calculated by said reliability evaluation unit in said storage unit, corresponding to the data of amount of shift; and

said failure judgment unit judging the existence of abnormality in said pixel shift mechanism, based on the pixel shift evaluation values of photographing of the last several times stored in said storage unit and the reliability data.

Claim 22 (Withdrawn): The image input unit according to claim 21, further comprising a reliability evaluation unit which calculates reliability data indicating the reliability of the amount of shift in the plurality of areas calculated by said pixel shift evaluation value calculation unit;

said storage control unit correcting the amount of shift based on the reliability data calculated by said reliability evaluation unit and storing the corrected amount of shift in said storage unit; and

said failure judgment unit judges the existence of abnormality in said pixel shift mechanism, based on the corrected amount of shift of the last several times stored in said storage unit.

Claim 23 (Withdrawn): The image input unit according to claim 18, wherein said pixel shift evaluation value calculation unit calculates the coincidence degree between the target image data when the image data output by said image sensing unit before being displaced by a predetermined amount is shifted for the predetermined amount, and the image data output after the displacement of said image sensing unit, as the pixel shift evaluation value.

Claim 24 (Withdrawn): The image input unit according to claim 23, wherein said pixel shift evaluation value calculation unit calculates the coincidence degree, respectively, for the plurality of areas of the image data, at the time of calculating the coincidence degree.

Claim 25 (Withdrawn): The image input unit according to claim 24, further comprising a reliability evaluation unit which calculates reliability data indicating the reliability of the coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit;

said storage control unit storing the reliability data calculated by said reliability evaluation unit in said storage unit, corresponding to the data of coincidence degree; and



said failure judgment unit judging the existence of abnormality in said pixel shift mechanism, based on the pixel shift evaluation values of photographing of the last several times stored in said storage unit and the reliability data.

Claim 26 (Withdrawn): The image input unit according to claim 24, further comprising a reliability evaluation unit which calculates reliability data indicating the reliability of the coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit;

said storage control unit correcting the coincidence degree based on the reliability data calculated by said reliability evaluation unit and storing the corrected coincidence degree in said storage unit; and

said failure judgment unit judging the existence of abnormality in said pixel shift mechanism, based on the corrected coincidence degree of the last several times stored in said storage unit.

Claim 27 (Withdrawn): The image input unit according to claim 18, further comprising an pixel shift mechanism failure informing unit which informs of a failure in said pixel shift mechanism, when it is judged by said failure judgment unit that said pixel shift mechanism has a failure.

Claim 28 (Withdrawn): The image input unit according to claim 18, further comprising:

an adjustment value storage unit which stores an adjustment value for driving said pixel shift mechanism; and

a pixel shift self calibration unit which judges whether it is necessary or not to change the adjustment value, and if it is necessary to change the adjustment value, calculating a new adjustment value to thereby change the adjustment value stored in said adjustment value storage unit.

Claim 29 (Withdrawn): The image input unit according to claim 28, further comprising an input unit for inputting an instruction so as to change the adjustment value that has been newly stored in said adjustment value storage unit to a value before the change or to an initial value by said pixel shift self calibration unit.

Claim 30 (Withdrawn): The image input unit according to claim 28, further comprising:

a frequency input unit for inputting the photographing frequency for the historical pixel shift evaluation values stored in said storage unit;

said pixel shift self calibration unit calculating the new adjustment value, based on the historical pixel shift evaluation values for the number of times of photographing set by said frequency input unit.

Claim 31 (Withdrawn): The image input unit according to claim 25, wherein said reliability evaluation unit calculates the reliability data based on the contrast of the image within the range of each of the calculation area.

Claim 32 (Withdrawn): The image input unit according to claim 26, wherein said reliability evaluation unit calculates the reliability data based on the contrast of the image within the range of each of the calculation area.

Claim 33 (Withdrawn): An image input unit capable of performing pixel shift photography, said image input unit comprising:

a photographic optical system which forms an image of a subject in a predetermined position;

an image sensing unit which generates image data corresponding to the image of the subject;

a pixel shift mechanism which displaces said image sensing unit by a predetermined amount;

an adjustment value storage unit which stores an adjustment value for driving said pixel shift mechanism;

a pixel shift mechanism control unit which controls said pixel shift mechanism based on the adjustment value stored in said adjustment value storage unit, to thereby displace said image sensing unit by a predetermined amount;

an image combining unit which generates image data for one image by combining the image data for a plurality of images output before and after the displacement of said image sensing unit;

a pixel shift evaluation value calculation unit which calculates a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not, based on the image data for a plurality of images output before and after the displacement of said image sensing unit;

a selection unit which selects the pixel shift calibration mode; and

a self calibration unit which executes pre-pixel shift photography once or plural times, when the pixel shift calibration mode is selected, and re-calculates the adjustment value based on the pixel shift evaluation value for each pixel shift photography, calculated by said pixel

shift evaluation value calculation unit, to thereby calculate a new adjustment value, and changes the adjustment value stored in said adjustment value storage unit to the new adjustment value.

Claim 34 (Withdrawn): The image input unit according to claim 33, wherein said pixel shift evaluation value calculation unit calculates an amount of shift between the image data for the plurality of images output before and after the displacement of said image sensing unit, as the pixel shift evaluation value; and  
said self calibration unit calculates the new adjustment value based on the amount of shift.

Claim 35 (Withdrawn): The image input unit according to claim 34, wherein when the pixel shift calibration mode is selected, said self calibration unit sets an adjustment value larger than the adjustment value stored in said adjustment value storage unit by a predetermined amount and an adjustment value smaller than that by a predetermined amount in said pixel shift mechanism, and performs pixel shift photography twice, to re-calculate the adjustment value based on the amount of shift between the two pixel shift photography calculated by said pixel shift evaluation value calculation unit to thereby calculate a new adjustment value.

Claim 36 (Withdrawn): The image input unit according to claim 34, wherein when said pixel shift calibration mode is selected, said self calibration unit sets the adjustment value stored in said adjustment value storage unit in said pixel shift mechanism to perform one pixel shift photography, and refers to the relational data between the adjustment value

registered in advance and the amount of shift, based on the amount of shift calculated by said pixel shift evaluation value calculation unit, to thereby calculate the new adjustment value.

Claim 37 (Withdrawn): The image input unit according to claim 33, wherein said pixel shift evaluation value calculation unit calculates, as the pixel shift evaluation value, the coincidence degree between a target image data when the image data output by said image sensing unit before being displaced by a predetermined amount is shifted for the predetermined amount, and the image data output after the displacement of said image sensing unit; and

said self calibration unit calculates the new adjustment value based on the coincidence degree.

Claim 38 (Withdrawn): The image input unit according to claim 33, wherein when calculating the amount of shift or the coincidence degree, said pixel shift evaluation value calculation unit calculates the amount of shift or the coincidence degree, respectively, for the plurality of areas of the image data.

Claim 39 (Withdrawn): The image input unit according to claim 38, further comprising:

an reliability evaluation unit which calculates reliability data indicating the reliability of each amount of shift each coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit; and

said self calibration unit calculates the new adjustment value based on the amount of shift or the coincidence degree, and the reliability data.

Claim 40 (Withdrawn): The image input unit according to claim 39, further comprising: an unacceptable subject informing unit which informs that it is necessary to change the subject or to change the distance of subject, when a part of or the whole of the reliability data calculated by said reliability evaluation unit does not reach a predetermined level.

Claim 41 (Withdrawn): The image input unit according to claim 33, further comprising:

a pixel shift mechanism abnormal failure judgment unit which judges whether the new adjustment value calculated by said self calibration unit is within a predetermined range or not, and when it is without the predetermined range, judges that said pixel shift mechanism has a failure; and

an pixel shift mechanism failure informing unit which informs of a failure of the pixel shift mechanism, when it is judged that said pixel shift mechanism has a failure by said pixel shift mechanism abnormal failure judgment unit.

Claim 42 (Withdrawn): The image input unit according to claim 39, wherein said reliability evaluation unit calculates the reliability data based on the contrast of the image within the range of each of the calculation area.

Claim 43 (Withdrawn): An image input unit capable of performing pixel shift photography, said image input unit comprising:

a photographic optical system which forms an image of a subject in a predetermined position;

an image sensing unit which generates image data corresponding to the image of the subject;

a pixel shift mechanism which displaces said image sensing unit by a predetermined amount;

an adjustment value storage unit which stores an adjustment value for driving said pixel shift mechanism;

a pixel shift mechanism control unit which controls said pixel shift mechanism based on the adjustment value stored in the adjustment value storage unit, to thereby displace said image sensing unit by a predetermined amount;

an image combining unit which generates image data for one image by combining the image data for a plurality of images output before and after the displacement of said image sensing unit;

a pixel shift evaluation value calculation unit which calculates a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not, based on the image data for a plurality of images output before and after the displacement of said image sensing unit; and

a pixel shift photography control unit which controls to execute an operation repetitively in which, when a continuous pixel shift mode is selected, a pre-pixel shift photography of setting an adjustment value in said pixel shift mechanism, said pixel shift evaluation value calculation unit calculates the pixel shift evaluation value to thereby calculate a new adjustment value based on the calculated pixel shift evaluation value, and pre-pixel shift photography is performed again with the new adjustment value.

Claim 44 (Withdrawn): The image input unit according to claim 43, wherein the pixel shift photography control unit determines a final adjustment value based on the adjustment

value calculated by the repetitively performed pre-pixel shift photography, and controls so that the final pixel shift photography is executed, based on the final adjustment value.

Claim 45 (Withdrawn): The image input unit according to claim 43, wherein said pixel shift evaluation value calculation unit calculates the amount of shift between the image data for the plurality of images output before and after the displacement of said image sensing unit, as the pixel shift evaluation value; and

the pixel shift photography control unit calculates the new adjustment value based on the amount of shift.

Claim 46 (Withdrawn): The image input unit according to claim 43, wherein said pixel shift evaluation value calculation unit calculates the coincidence degree between the target image data when the image data output by said image sensing unit before being displaced is shifted for the predetermined amount, and the image data output after the displacement of said image sensing unit, as the pixel shift evaluation value; and

the pixel shift photography control unit calculates the new adjustment value based on coincidence degree.

Claim 47 (Withdrawn): The image input unit according to claim 45, wherein said pixel shift evaluation value calculation unit calculates the amount of shift or the coincidence degree, respectively, for a plurality of areas of the image data, when calculating the amount of shift or the coincidence degree.

Claim 48 (Withdrawn): The image input unit according to claim 46, wherein said pixel shift evaluation value calculation unit calculates the amount of shift or the coincidence



degree, respectively, for a plurality of areas of the image data, when calculating the amount of shift or the coincidence degree.

Claim 49 (Withdrawn): The image input unit according to claim 47, further comprising a reliability evaluation unit which calculates reliability data indicating the reliability of each amount of shift or each coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit;

the pixel shift photography control unit calculating the new adjustment value, based on the amount of shift or the coincidence degree, and the reliability data.

Claim 50 (Withdrawn): The image input unit according to claim 48, further comprising a reliability evaluation unit which calculates reliability data indicating the reliability of each amount of shift or each coincidence degree in the plurality of areas calculated by said pixel shift evaluation value calculation unit;

the pixel shift photography control unit calculating the new adjustment value, based on the amount of shift or the coincidence degree, and the reliability data.

Claim 51 (Withdrawn): The image input unit according to claim 44, wherein the pixel shift photography control unit repetitively executes the pre-pixel shift photography for a predetermined number of times, or until the pixel shift evaluation value becomes within a predetermined range.

Claim 52 (Withdrawn): The image input unit according to claim 45, wherein the pixel shift photography control unit repetitively executes the pre-pixel shift photography for a

predetermined number of times, or until the pixel shift evaluation value becomes within a predetermined range.

Claim 53 (Withdrawn): The image input unit according to claim 46, wherein the pixel shift photography control unit repetitively executes the pre-pixel shift photography for a predetermined number of times, or until the pixel shift evaluation value becomes within a predetermined range.

Claim 54 (Withdrawn): The image input unit according to claim 44, wherein the pixel shift photography control unit judges that said pixel shift mechanism has a failure, in the case where the calculated new adjustment value exceeds a predetermined number of times or a predetermined range, in the pre-pixel shift photography, and informs of this matter.

Claim 55 (Withdrawn): The image input unit according to claim 45, wherein the pixel shift photography control unit judges that said pixel shift mechanism has a failure, in the case where the calculated new adjustment value exceeds a predetermined number of times or a predetermined range, in the pre-pixel shift photography, and informs of this matter.

Claim 56 (Withdrawn): The image input unit according to claim 46, wherein the pixel shift photography control unit judges that said pixel shift mechanism has a failure, in the case where the calculated new adjustment value exceeds a predetermined number of times or a predetermined range, in the pre-pixel shift photography, and informs of this matter.

Claim 57 (Withdrawn): The image input unit according to claim 44, further comprising an image storage unit which stores a combined image combined by said image combining unit,

the pixel shift photography control unit storing only the combined image having the best pixel shift evaluation value calculated by said pixel shift evaluation value calculation unit in the pre-pixel shift photography and the main pixel shift photography, in said image storage unit.

Claim 58 (Withdrawn): The image input unit according to claim 45, further comprising an image storage unit which stores a combined image combined by said image combining unit,

the pixel shift photography control unit storing only the combined image having the best pixel shift evaluation value calculated by said pixel shift evaluation value calculation unit in the pre-pixel shift photography and the main pixel shift photography, in said image storage unit.

Claim 59 (Withdrawn): The image input unit according to claim 46, further comprising an image storage unit which stores a combined image combined by said image combining unit,

the pixel shift photography control unit storing only the combined image having the best pixel shift evaluation value calculated by said pixel shift evaluation value calculation unit in the pre-pixel shift photography and the main pixel shift photography, in said image storage unit.

Claim 60 (Withdrawn): The image input unit according to claim 43, further comprising a mode selection unit which selects a normal pixel shift photography mode for generating the combined image by one pixel shift photography and the continuous pixel shift photography mode.

Claim 61 (Withdrawn): The image input unit according to claim 49, wherein said reliability evaluation unit calculates the reliability data based on the contrast of the image within the range of each of the calculation area.

Claim 62 (Withdrawn): The image input unit according to claim 50, wherein said reliability evaluation unit calculates the reliability data based on the contrast of the image within the range of each of the calculation area.

Claim 63 (Currently Amended): An image input method for performing pixel shift photography, comprising the steps of:

acquiring a first image data corresponding to an image of a subject with an image sensing unit;

displacing said image sensing unit by a predetermined amount;

acquiring a second image data corresponding to an image of the subject with said image sensing unit after the displacement of said image sensing unit;

generating image data for one image by combining the first image data and the second image data; and

judging whether the pixel shift photography on the completed combined image data has been performed correctly or not, based on comparing the first image data and with the second image data.

Claim 64 (Withdrawn): An image input method for performing pixel shift photography, comprising the steps of:

acquiring a first image data corresponding to an image of a subject with an image sensing unit;

displacing said image sensing unit by a predetermined amount by a pixel shift mechanism;

acquiring a second image data corresponding to an image of the subject with said image sensing unit after the displacement of said image sensing unit;

generating image data for one image by combining the first image data and the second image data;

calculating a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not, based on the first image data and the second image data;

storing the pixel shift evaluation value in a storage unit; and

judging a failure or normal operation of said pixel shift mechanism, based on the pixel shift evaluation values obtained by performing the pixel shift photography for several times and stored in said storage unit.

Claim 65 (Withdrawn): An image input method for performing pixel shift photography, comprising the steps of:

acquiring a first image data corresponding to an image of a subject with an image sensing unit;

displacing said image sensing unit by a predetermined amount by driving a pixel shift mechanism based on an adjustment value stored in a storage unit;

acquiring a second image data corresponding to an image of the subject with said image sensing unit after the displacement of said image sensing unit;

generating image data for one image by combining the first image data and the second image data; and

executing pre-pixel shift photography once or plural times, when a self calibration mode is selected to calculate a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not based on the first image data and the second image data, and calculating a new adjustment value by re-calculating the adjustment value, based on the calculated pixel shift evaluation value to change the adjustment value stored in said storage unit to the new adjustment value.

Claim 66 (Withdrawn): An image input method for performing pixel shift photography, comprising:

a first step of acquiring a first image data corresponding to an image of a subject with an image sensing unit;

a second step of displacing said image sensing unit by a predetermined amount by driving a pixel shift mechanism based on an adjustment value stored in a storage unit;

a third step of imaging the subject image on said image sensing unit displaced by the predetermined amount to output second image data;

a fourth step of calculating a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not based on the first image data and the second image data;

a fifth step of calculating a new adjustment value by re-calculating the adjustment value, based on the calculated pixel shift evaluation value, and changing the adjustment value stored in said storage unit to the new adjustment value;

a sixth step of repeating said first to fifth steps for a predetermined number of times,  
or until the new adjustment value becomes within a predetermined range; and

a seventh step of performing pixel shift photography with the final adjustment value.

Claim 67 (Currently Amended): A computer readable medium for storing instructions, which when executed on a computer, causes the computer to perform the steps of:

acquiring a first image data corresponding to an image of a subject with an image sensing unit;

displacing said image sensing unit by a predetermined amount;

acquiring a second image data corresponding to an image of the subject with said image sensing unit after the displacement of said image sensing unit;

generating image data for one image by combining the first image data and the second image data; and

judging whether the pixel shift photography on the completed combined image data has been performed correctly or not, based on comparing the first image data and with the second image data.

Claim 68 (Withdrawn): A computer readable medium for storing instructions, which when executed on a computer, causes the computer to perform the steps of:

acquiring a first image data corresponding to an image of a subject with an image sensing unit;

displacing said image sensing unit by a predetermined amount by a pixel shift mechanism;

acquiring a second image data corresponding to an image of the subject with said image sensing unit after the displacement of said image sensing unit;

generating image data for one image by combining the first image data and the second image data;

calculating a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not, based on the first image data and the second image data;

storing the pixel shift evaluation value in a storage unit; and

judging a failure or normal operation of said pixel shift mechanism, based on the pixel shift evaluation values obtained by performing the pixel shift photography for several times and stored in said storage unit.

Claim 69 (Withdrawn): A computer readable medium for storing instructions, which when executed on a computer, causes the computer to perform the steps of:

acquiring a first image data corresponding to an image of a subject with an image sensing unit;

displacing said image sensing unit by a predetermined amount by driving a pixel shift mechanism based on an adjustment value stored in a storage unit;

acquiring a second image data corresponding to an image of the subject with said image sensing unit after the displacement of said image sensing unit;

generating image data for one image by combining the first image data and the second image data; and

executing pre-pixel shift photography once or plural times, when a self calibration mode is selected to calculate a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not based on the first image data and the second



image data, and calculating a new adjustment value by re-calculating the adjustment value, based on the calculated pixel shift evaluation value to change the adjustment value stored in said storage unit to the new adjustment value.

Claim 70 (Withdrawn): A computer readable medium for storing instructions, which when executed on a computer, causes the computer to perform:

a first step of acquiring a first image data corresponding to an image of a subject with an image sensing unit;

a second step of displacing said image sensing unit by a predetermined amount by driving a pixel shift mechanism based on an adjustment value stored in a storage unit;

a third step of imaging the subject image on said image sensing unit displaced by the predetermined amount to output second image data;

a fourth step of calculating a pixel shift evaluation value for judging whether the pixel shift photography has been normally performed or not based on the first image data and the second image data;

a fifth step of calculating a new adjustment value by re-calculating the adjustment value, based on the calculated pixel shift evaluation value, and changing the adjustment value stored in said storage unit to the new adjustment value;

a sixth step of repeating said first to fifth steps for a predetermined number of times, or until the new adjustment value becomes within a predetermined range; and

a seventh step of performing pixel shift photography with the final adjustment value.